REMARKS

Claims 1-10 and 21-36 were pending in this application.

Claims 1-10 and 21-36 have been rejected.

Reconsideration and full allowance of Claims 1-10 and 21-36 are respectfully requested.

I. **CLAIM REJECTIONS -- 35 U.S.C. § 112**

Claim 36 was rejected under 35 U.S.C. § 112, first paragraph as claiming subject matter that is not described in the specification in a manner enabling one skilled in the relevant art to make or use the claimed invention. This rejection is respectfully traversed.

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. MPEP § 2164.01, p. 2100-193 (8th ed., rev. 4, October 2005). The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. *Id.* A patent need not teach, and preferably omits, what is well known in the art. *Id.* The Patent Office has the initial burden of establishing a reasonable basis to question the enablement provided for the claimed invention. MPEP § 2164.04 at 2100-197. The minimal requirement for a proper enablement rejection is to give reasons for the uncertainty of the enablement. *Id.*

The Examiner is respectfully referred to paragraph 0032 of the specification as filed, which specifies that the fluoride wet etch rate for phosphorus doped oxide is approximately forty times (40x) the etch rate for thermal silicon dioxide, and the fluoride wet etch rate for thermal silicon dioxide is approximately ten times (10x) the etch rate for a boron doped oxide. As can would be immediately apparent to one of ordinary skill in the art, then, the fluoride wet etch rate for phosphorus doped oxide is approximately four hundred times (400x) the etch rate for a boron doped oxide. Conversely, the fluoride wet etch rate for a boron doped oxide is approximately 400x slower than the etch rate for phosphorus doped oxide.

As described in the context of Figure 2 and paragraphs 0030-0035, in at least one exemplary embodiment, the limitations of claim 29 can be illustrated by the "first doped oxide layer" being the boron doped oxide layer 230, and the "second doped oxide layer" being the phosphorus doped oxide layer 240. Using the figures provided in paragraph 0032 and described above, it is clear that the limitation of claim 36, that the first doped oxide layer has an etch rate that is at least four hundred times slower than an etch rate of the second doped oxide layer, is supported in the specification as filed.

Accordingly, the Applicant respectfully requests the Examiner to withdraw the § 112 rejection.

II.   REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-10 and 21-35 under 35 U.S.C. § 103(a) as being unpatentable over *Background of the invention* ("Background") in view of U.S. Patent No.

5,116,778 to *Haskell* ("Haskell"). The Applicant respectfully traverses this rejection.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP § 2142; In re Fritch, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)*). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP § 2142; In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)*). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. (*MPEP § 2142; In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993)*). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. (*In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Grabiak, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985)*).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993)*). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references

when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. (*MPEP § 2142*).

The Examiner is correct that the Background section of the specification describes a conventional process, and that it does not teach or suggest the specific limitations of the claims with regard to the various layers and etch processes. The Examiner is correct that Haskell describes various etch rates for PSG and BSG in col. 4. Applicant must respectfully disagree with the further statements and conclusions of the Examiner.

Claim 1, for example, specifically requires calculating a time period required for a wet etch process to etch through a layer of phosphorus doped oxide, and performing the wet etch process on the phosphorus doped oxide layer for that time period. This is not at all taught or suggested by Haskell. While Haskell mentions the differing etch rates of PSG and BSG, at no point does Haskell teach or suggest actually calculating the etch time required to etch through the PSG. The Examiner's statement of inherency is unsupported – nothing in Haskell teaches or suggests any such calculation, and nothing of the process described by Haskell indicates that such a calculation is <u>necessarily</u> present, as required by an inherency finding. The Examiner's statement that it is "inherently calculated in order to stop process from further etching into the lower BSG layer 16 that has a slower etch rate than the PSG layer" is also unsupported, since nothing in Haskell teaches or suggests that the etch process is stopped or otherwise controlled based on the time to etch through any layer.

Haskell certainly does not teach or suggest anything related to then performing the etch process for that time period, as claimed, where the time calculation can be used to predict and control the duration of the etch process.

Haskell does not consider this approach at all – in col. 4, lines 51-57, Haskell teaches that an end point etch detection is used to determine when the etch has progressed through the PSG to the BSG. This illustrates that Haskell does not contemplate using a calculated etch time, and in fact teaches away from the limitations of the claim.

These limitations of independent claims 1, 9, 21, and 29 are not taught or suggested by any combination of the Background section of the present application and Haskell, all obviousness rejections are traversed.

Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejection and full allowance of Claims 1-10 and 21-35.

II. CONCLUSION

The Applicant respectfully asserts that all pending claims in this application are in condition for allowance and respectfully requests full allowance of the claims.

SUMMARY

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@munckbutrus.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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Date: JANUARY 18, 2007

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